

REMARKS

This paper is being provided in response to the Final Office Action mailed February 25, 2003, for the above-referenced application. Applicant respectfully requests consideration of the following remarks.

The rejection of claims 1-5, 9-13, and 20-23 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,020,275 to Stevenson et al. (hereinafter "Stevenson") in view of U.S. Patent No. 5,707,903 to Schottenfeld (hereinafter "Schottenfeld") is hereby traversed and reconsideration is respectfully requested.

Applicant's independent claim 1 recites a textile grating for reinforcing layers that has a plurality of individual threads of high-strength synthetic yarns grouped to form weft thread groups and warp thread groups. The weft and warp thread groups are connected to each other such that each weft and warp thread group is at a spacing of at least 8 mm relative to the respectively adjacent parallel thread group to provide for penetration of the grating by the layers. The weft and warp thread groups are covered by a polymer coating that contains regularly distributed gas inclusions such that the polymer coating is a foam structure that provides an increased specific volume and compressibility to the coating. Claims 2-4, and 9-12 depend directly or indirectly on independent claim 1.

Applicant's independent claim 5 recites a method of producing a textile grating for reinforcing layers in which high strength warp threads are connected together with weft threads. The warp and weft threads are connected to form warp and weft thread groups which are each at

a spacing of at least 8 mm with respect to the respectively adjacent parallel thread group to provide for penetration of the grating by the layers. The thread groups are wetted with a material that is capable of flow and that contains a polymer-forming substance. The warp and weft thread groups are covered with a coating by virtue of the polymer setting. The material that is capable of flow is a propellant that produces gas inclusions during setting of the polymer that provides an increased specific volume and compressibility to the coating. Claims 6-8, and 13-19 depend directly or indirectly on independent claim 5.

Applicant's independent claim 20 recites a method of reinforcing layers including providing a textile grating. The textile grating has a plurality of individual threads of high-strength synthetic yarns forming weft thread groups connected to warp thread groups. The weft and warp thread groups are each at a spacing of at least 8 mm relative to the respectively adjacent parallel thread group and are covered by a polymer coating. The polymer coating contains distributed gas inclusions so that the polymer coating is of a foam structure that provides an increased specific volume and compressibility to the coating. Claims 21-23 depend directly or indirectly on independent claim 20.

Stevenson discloses bonded composite open mesh structural textiles formed of woven textiles including multifilament yarn. A plurality of warp yarns are woven with a plurality of weft yarns. (See Figure 1 and col. 8, lines 31-57). A non-foam polymer component is applied to encapsulate and bond yarns at the warp and weft junctions to strengthen the junctions. The polymer is applied as a spray, bath, or a sheet which is heated, so that the polymer flows around

and encapsulates the yarn components; optimized film properties of the coating are achieved by the use of a cross-linked urethane polymer. (See col. 11, lines 5-22).

Schottenfeld discloses a flexible laminated liner having a non-slip side and decorative side opposite the non-slip side. The liner 10 is comprised of a non-slip pad 12 having a decorative sheet covering 14 bonded to the pad by a layer of adhesive 16. The non-slip pad is formed from a scrim 20 coated with a PVC foam 22. (See col. 2, lines 14-19). The resulting pad 12 has generally uniform open cells 26 corresponding to the openings in the scrim 20. A continuous decorative covering 14 is then bonded to the pad 12 to form the liner 10. The decorative covering 14 covers the open cells of the pad 12 which prevents debris and small objects from falling into the open cells. (See col. 4, lines 10-19).

Applicant's independent claims recite the application of a polymer coating having a foam structure to the warp and weft threads. Applicant has found that a softer and more resilient material such as foamed PVC likely enhances the protection of the coated threads in geotextiles. The brittle solid coating typically applied to geotextile materials may be damaged during installation due to the charges of earth and gravel layers and thus subject the underlying threads to damage. In some cases, the softer and more flexible foam coating provides better protection, especially in cases of deformation and stretching of the geotextile. The foam structure of the polymer coating provides an increased specific volume and compressibility to the coating.

Stevenson fails to teach that the composite open mesh structural textile is coated with a foamed PVC material. (See Office Action dated September 12, 2002, page 4). Instead,

Stevenson teaches the use of conventional solid, non-foamed plastic coatings, which had previously been thought to provide the highest protection of reinforcement yarns. The Office Action relies on the teachings of Schottenfeld to create a structural textile of Stevenson coated with the PVC foam of Schottenfeld. Applicant respectfully submits that the decorative shelf liner of Schottenfeld cannot feasibly be combined with the geotextile of Stevenson to produce a device that operates according to Applicant's claimed invention.

Schottenfeld's decorative liner is not suitable as a construction-grade material, and one of ordinary skill in the art would not reasonably look to the teachings of a decorative shelf liner for purposes of combining the decorative shelf liner with a geotextile for construction-grade reinforcement of ground layers. Applicant respectfully asserts that the references of Stevenson and Schottenfeld are *non-analogous art* that are unsuitable for combination to produce Applicant's claimed invention. Placed underground in a geotextile construction setting, Schottenfeld's decorative non-slip liner would quickly disintegrate into unrecognizable material fragments.

Moreover, Schottenfeld discloses a shelf liner having a decorative layer applied *over* a non-slip layer that contacts a surface. The decorative layer is in place to prevent debris from falling into the open cells of the non-slip layer, as such debris would potentially lower the surface friction and affect the ability of the non-slip layer to prevent slippage of the liner on a flat surface. On the other hand, Applicant's claimed invention is designed *to provide for penetration of the grating by the ground layers* in order to reinforce the ground layers. Unlike the purpose of Schottenfeld's liner to prevent slipping on a flat surface, Applicant's claimed invention is put in

the ground to reinforce ground layers, which purpose is attained by *interlocking engagement resulting from the penetration of the grating*. In this environment, surface friction is negligible due to the presence of dust and ground particles, which cover the surface of the grating. The concept of preventing slippage across a flat surface by increasing surface friction is not applicable, nor operable with, the use of a construction-grade geotextile the context of ground layer reinforcement. Accordingly, Applicant respectfully submits that the geotextile of Stevenson combined with the decorative liner of Schottenfeld would *not operate* to produce the invention, as claimed by Applicant, of a wide-mesh textile grating for reinforcing layers.

Accordingly, based on the above, Applicant respectfully request that this rejection be reconsidered and withdrawn.

Furthermore, with respect to dependent claim 2, Applicant particularly notes that nothing in the prior art of record teaches or suggests *impregnation of individual threads* by a foam polymer coating. The Office Action summarizes Applicant's argument as stating that Stevenson fails to disclose encapsulation of the yarn groups. In fact, Applicant noted, and continues to note, that while Stevenson arguably discloses encapsulation of the yarn groups to strengthen yarn group junctions by a non-foam polymer coating, it does not teach or suggest *impregnation of individual threads* by a foam polymer coating. Applicant has found that impregnation of individual threads by the foam polymer coating provides the advantages of increased specific volume and compressibility to the individual threads. (See Applicant's page 3, lines 23-29). Applicant respectfully submits that nothing in the prior art of record teaches or suggests

impregnation of individual threads by a foam polymer coating. Accordingly, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

The rejection of claims 6-8, 14, and 16-18 under 35 U.S.C. 103(a) as being unpatentable over Stevenson in view of Schottenfeld and further in view of U.S. Patent No. 4,434,251 to Sasajima et al. (hereinafter "Sasajima") is hereby traversed and reconsideration is respectfully requested.

The Sasajima reference discloses an apparatus and method for a cross-linked polyvinyl chloride resin foam. A shaped polyvinyl chloride resin is thermally formed by such processes as blowing hot air in temperatures ranging from 170 to 250 °C.

The features of the independent claims are discussed above with respect to Stevenson and Schottenfeld. Applicants respectfully submits that the teachings of Sasajima fail to overcome the deficiencies of the combination of Stevenson and Schottenfeld with respect to the independent claims in that the references cannot be read as teaching or fairly suggesting a textile grating with a polymer coating having a foam structure that provides an increased specific volume and compressibility to the coating. Accordingly, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

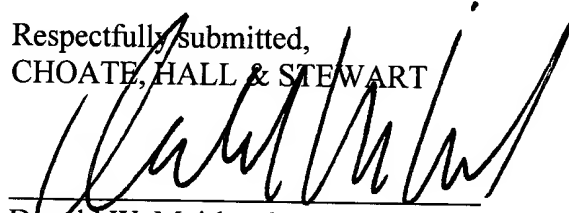
The rejection of claims 5, 7, 15 and 19 under 35 U.S.C. 103(a) as being unpatentable over Stevenson in view of U.S. Patent No. 5,346,278 to Dehondt (hereinafter "Dehondt") is hereby traversed and reconsideration is respectfully requested.

Dehondt discloses a non-slip high chair cushion having globules of rubbery polymeric material deposited on a scrim fabric by dipping the fabric in a plastic foam material. The cushion is lies flat against a smooth high chair seat and maintains a high coefficient of friction between the high chair seat and an infant.

The features of the independent claims are discussed above with respect to Stevenson. Applicants respectfully submits that the teachings of Dehondt fail to overcome the deficiencies of Stevenson with respect to the independent claims in that the references cannot be read as teaching or fairly suggesting a textile grating with a polymer coating having a foam structure that provides an increased specific volume and compressibility to the coating. Accordingly, Applicant respectfully requests that this rejection be reconsidered and withdrawn.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 617-248-4038.

Respectfully submitted,
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